



University of Massachusetts Amherst

Department of Resource Economics

Working Paper No. 2007-5

<http://www.umass.edu/resec/workingpapers>

Seafood Label Effectiveness in the Amherst Market: A Study of the Quality and Quantity of Point of Purchase Information

James Wagstaff¹

(Paper Contact: Julie A. Caswell²)

Abstract:

As evidenced by the recent release of a comprehensive Institute of Medicine report on seafood consumption and by the passage of the 2002 Farm Bill, it is clear that there is growing concern about the health benefits and risks of fish consumption. This research project was designed to analyze the seafood market in Amherst, Massachusetts, and, specifically, to explore the effectiveness of seafood product labeling provided by the largest retailers in the area. Studying the availability of seafood and the associated labeling practices reveals how the Amherst market meets the needs of different consumers. While each venue generally adheres to the regulatory requirements of seafood labeling, this research includes recommendations as to how the market might benefit from improved labeling and consumer information.

Keywords: Seafood, Country of Origin Labeling, Retail Availability

JEL Classification: D12, L15, Q18

¹James Wagstaff, Isenberg School of Management
University of Massachusetts, Amherst, MA 01003

²Julie A. Caswell, Department of Resource Economics
University of Massachusetts, 215 Stockbridge Hall
80 Campus Center Way, Amherst, MA 01003

E: caswell@resecon.umass.edu P: 413-545-5735 F: 413-545-5853

Seafood Label Effectiveness in the Amherst Market

A study of the quality and quantity of point of purchase information

Presented by
James Wagstaff

February 26, 2007

Abstract

As evidenced by the recent release of a comprehensive Institute of Medicine report on seafood consumption and by the passage of the 2002 Farm Bill, it is clear that there is growing concern about the health benefits and risks of fish consumption. This research project was designed to analyze the seafood market in Amherst, Massachusetts, and, specifically, to explore the effectiveness of seafood product labeling provided by the largest retailers in the area. Studying the availability of seafood and the associated labeling practices reveals how the Amherst market meets the needs of different consumers. While each venue generally adheres to the regulatory requirements of seafood labeling, this research includes recommendations as to how the market might benefit from improved labeling.

James Wagstaff is an undergraduate student in the Isenberg School of Management at the University of Massachusetts Amherst. This research was conducted under the guidance and advice of Dr. Julie A. Caswell, professor in and Chair of the Department of Resource Economics at the University of Massachusetts Amherst.

Background and Introduction

Signed into law by President Bush in 2002, the Farm Security and Rural Investment Act of 2002, commonly known as the Farm Bill, stipulates two important regulations for the retailing of fish and shellfish: country of origin labeling and farm-raised or wild labeling. The term “farm-raised” means hatched, raised, and harvested in captivity; the term “wild” means naturally-born or hatchery-raised fish and shellfish harvested in the wild (ERS Analysis). In general this information may be provided to consumers by means of a label, stamp, mark, placard, or other clear and visible sign on the covered commodity at the final point of sale to consumers.

While the Farm Bill has advanced the extent of information available to consumers, there are questions as to whether the Farm Bill is sufficient for ensuring enough quality information. The recent release of a report sponsored by the Institute of Medicine of The National Academies underscores the concern that consumers need better guidance when weighing the benefits and risks of fish consumption (Seafood Choices). Given the attention being paid to fish consumption and the resulting potential for human health risk, this study was designed to explore the quality and quantity of point-of-purchase information available to consumers of fish in the Amherst, MA market.

To understand the seafood options available to Amherst consumers, information was gathered from five brick and mortar outlets and three online delivery services catering to Amherst (specifically zip code 01003). Because the objective was to study information available to consumers at the point of purchase, all the information displayed at the fish counter/website was recorded including: fish species, country of origin, farm/wild distinction, branding, and price. Additionally, all of the bulletins, handouts, brochures, and documentation present at the fish counters were noted and collected. Data were collected from the following venues:

Market	<u>Number of Products at Fish Counter</u>
Big Y World Class Market	19
Costco (West Springfield)	6
Stop & Shop Supermarket	25
Trader Joe's	11
Whole Foods Market	30
Peapod.com	25
Schwans.com	19
Costco.com	3

At the five primary brick and mortar fish retail markets in Amherst, the most common fish and shellfish available are: Atlantic salmon, Albacore tuna, bay

scallop, cod, Mahogany clam, sea scallop, shrimp, swordfish, and tilapia. Additionally, Atlantic salmon, bay scallop, shrimp, and tilapia are the only products that all five shops and three websites carry in common.

Most Commonly Available Fish in Amherst Market

Wild Sea Scallop

COO: Canada, USA, Japan, Russia

Price Range: (\$9.99, \$14.99)

Farmed Atlantic Salmon

COO: Canada, Chile, Norway

Price Range: (\$7.99, \$8.99)

Farmed Bay Scallop

COO: China

Price Range: (\$3.88, \$7.99)

Farmed Shrimp

COO: Vietnam, Thailand, USA

Price Range: (\$7.75, \$16.99)

Wild Cod Fillet

COO: Canada, Iceland, USA

Price Range: (\$7.88, \$13.99)

Wild Mahogany Clam

COO: USA, Canada

Price Range: (\$1.99, \$2.99)

Farmed Tilapia

COO: Ecuador, China, Brazil

Price Range: (\$3.99, \$7.99)

Wild Swordfish

COO: Canada, Singapore, USA

Price Range: (\$6.99, \$10.99)

Wild Albacore Tuna Steak

COO: Indonesia, Trinidad, Canada

Price Range: (\$4.69, \$18.99)

Findings

All five brick and mortar shops and all three websites catering to the Amherst market generally adhere to the provisions of the Farm Bill. Each venue consistently and clearly labeled the species, country of origin, farm/wild distinction, and price for each fish commodity it sells. Out of the 138 products surveyed for this research, only four items were not labeled for their country of origin and those four instances all occurred at Whole Foods Market (when asked, the Whole Foods staff were able to clarify the country of origin for three of the four items). The web outlets adhere less thoroughly to Farm Bill; information is not uniform and often missing from the web pages. Four of the five retailers, Trader Joe's excluded, display all the necessary information: species, country of origin, farm/wild designation, and price, on one placard in front of the respective fish product. While all the markets use relatively similar placards, there are variances in placard effectiveness.

Big Y

On Big Y's placards, price is in the largest font and bold. The fish species, country of origin, and farm/wild distinction are all featured in smaller, but equally sized font. The placards themselves are often faded and worn; however, that seems to have no impact on the information displayed. Big Y sells nineteen fish products and all have a consistent, clear, and informative placard.



Costco

Costco objected to having pictures taken of and around their fish counter; however, their placards are most similar to Stop & Shops. They are two-toned and small, featuring price most predominately. Country of origin, species, and farm/wild distinction are clearly shown in smaller, but still easily readable fonts. Costco usually sells six fish products and all have a consistent, clear, and informative placard.

Stop & Shop



On Stop & Shop's placards price is featured in the largest font, but the fish title is most prevailing. Farm/wild and country of origin designations are shown in similarly sized smaller fonts. The placards consist of two colors, blue and white, and provide clear and quickly understood information. Stop & Shop sells twenty-five fish products and all have a consistent, clear, and informative placard.

Trader Joe's

The fish aisle at Trader Joe's requires a higher level of the purchaser's focus and attention. For Trader Joe's eleven products, labeling is inconsistent and disjointed. Because of the nature of its fish department (self-serve frozen packages), fish packages are often unaligned with their label, as evident in the picture below, over stocked bins spill over into other bins. The labeling system has two elements: first there is a placard above the freezers and food bins, and second there is a label on the fish package. The placards, above the food bins, are hand written and emphasize different features. For example, the Coho salmon placard specifies, "natural" or "great marinated," while the Albacore tuna placard indicates, "de-boned," or "make for dinner tonight." The label on each fish product prominently features price, species, country of origin, and farm/wild distinction. Trader Joe's sells eleven fish products and the labels and placards display inconsistent, sometimes vague, and questionably useful information.



Whole Foods

Price is the largest and most prominent element of Whole Food's placards. The fish species is the second largest text size and often is coupled with a location descriptor like "Key West shrimp" or "Littleneck clams." The country of origin and farm/wild designation is featured in small but legible font. The placards are laminated, bright, and clear. Whole Foods sells thirty fish products and all have a consistent, clear, and informative placard.



PeaPod.com

After showing a picture that includes the species and farm/wild distinction, this online retailer offers a nutritional label that also lists the country of origin. Price is listed on a different webpage. PeaPod.com has a clear and understandable format, sells twenty-five fish and shellfish species, and delivers them to the consumer's home.

Salmon Fillet Farm-Raised Super Trim Close Window

Price: \$4.49
Size: APX 3/4 LB
 On Sale



[Product Information](#) [Add to Personal List](#) [Substitutions](#)

Nutrition Facts			
Serving Size 3.5 OZ RAW			
Servings Per Container VARIES			
Amount Per Serving			
Calories 142		Calories from Fat 57	
		% Daily Value*	
Total Fat 6.3g		15%	
Saturated Fat 1g		5%	
Cholesterol 55mg		18%	
Sodium 44mg		2%	
Potassium 490		14%	
Total Carbohydrate 0g		0%	
Dietary Fiber 0g		0	
Sugars 0			
Other Carbohydrate 0%			
Protein 19.8g			
Vitamin A 0%		Vitamin C 0%	
Calcium 0%		Iron 0.8%	
Percent daily value reflects "as packaged" food.			
* Percent daily values are based on a 2,000 calorie diet.			
Your daily values may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram:			
Fat 9	Carbohydrate 4	Protein 4	

INGREDIENTS: Ingredient information not available for this product.

INFO:
Country of Origin: Farm-Raised Chile

Schwans.com

The labeling of Schwans' fish provides the farm/wild distinction along with the fish species and country of origin in the webpage heading and lists nutritional facts further down the webpage. The text is neat, clear, and easy to read. Price is listed on a different webpage. Schwans offers nineteen fish items; however, not all of them are labeled with the country or origin or farm/wild distinction. Uniquely, the product label provides a telephone number that consumers can call for allergy information.

Alaskan Salmon "Wild-Caught"

Ingredients

SALMON: SALMON, WATER, SODIUM PHOSPHATES AND SALT. MESQUITE SPICE PACKET INGREDIENTS: SALT, GRANULATED GARLIC, AUTOLYZED YEAST EXTRACT, BLACK PEPPER, CITRIC ACID, NATURAL MESQUITE SMOKE FLAVORING. CONTAINS FISH (SALMON)

For allergy information, refer to product packaging or call toll free 1-888-SCHWANS (724-9267).

NOTE: Ingredients may change as our product recipes are updated. You may also want to see your product packaging for ingredients.

Nutrition Facts

Salmon					
Serving Size	4 oz (112g)	Total Fat	2g(s)	Total Carbs	1g(s)
# of servings	about 8	Saturated Fat	0g(s)	Fiber	0g(s)
Calories	100	Trans Fat		Sugars	< 1g(s)
Fat Calories	15	Cholesterol	35mg(s)	Protein	20g(s)
Vitamin A	0%	Sodium	430mg(s)		
Vitamin C	0%	Calcium	0%	Iron	2%

Costco.com

Costco.com sells fish online in bulk. It uses stock images, which likely do not reflect the package the consumer will receive. For example, Costco.com sells



Pacific Ahi tuna packages of six 10oz. pieces for \$144.99, but features this picture. While the country of origin is listed for its products, there is no label for the farm/wild distinction and no nutritional information. Costco.com sells three different fish and shellfish products with inconsistent and often uninformative descriptions and labels.

Although not required by law, each of the five brick and mortar shops provide secondary proprietary information about fish consumption in general. These packets, booklets, pamphlets, and placards contain information ranging from proper preparation of frozen fish to background information on specific species. While some of the species-specific information might be a pretext for marketing, the content is generally helpful. At the same time, during the two visits to each of these five stores it was observed that none of the customers collected or viewed any of this secondary information.

Conversely, each brick and mortar store's website and the online grocers' websites all contain a significant amount of information ranging from species specific nutrition labeling to up-to-date health warnings. Without access to website statistics, it is difficult to gauge the effectiveness of this information and frequency of its use. However, it seems safe to assume that the information would not be on all eight retailer's websites if it were not viewed often.

Tailoring Information to Specific Consumer Groups

Although it is evident that the retailers generally adhere to demands of the Farm Bill, the question of whether there is enough quality information available to consumer at the point of purchase still remains.

In the fish commodity market, there are two important demographics each requiring different guidelines on fish consumption (Seafood Choices). The first group consists of children under age twelve and females who are likely to become pregnant, are pregnant, or are lactating. The second group consists of males over age thirteen and females over age thirteen who are not likely to become pregnant, are not pregnant, or are not lactating.

For people in the first group, there may be benefits from eating fish particularly high in EPA and DHA content like Atlantic salmon, Pacific salmon, and rainbow trout (Seafood Choices). EPA and DHA are both omega-3 fatty acids and believed to decrease the risk of cardiovascular disease (Schacky and Harris, 2007). At the same time, persons in this group ought to avoid consumption of shark, swordfish, tilefish, and king mackerel because of the high methyl mercury concentration in these species (Seafood Choices). It is recommended for people in the second group to regularly consume seafood, and varying the species of consumed seafood may provide additional health benefits (Seafood Choices). Given these recommendations for seafood consumption, it is useful to see how the Amherst market meets the demands for consumers in each group.

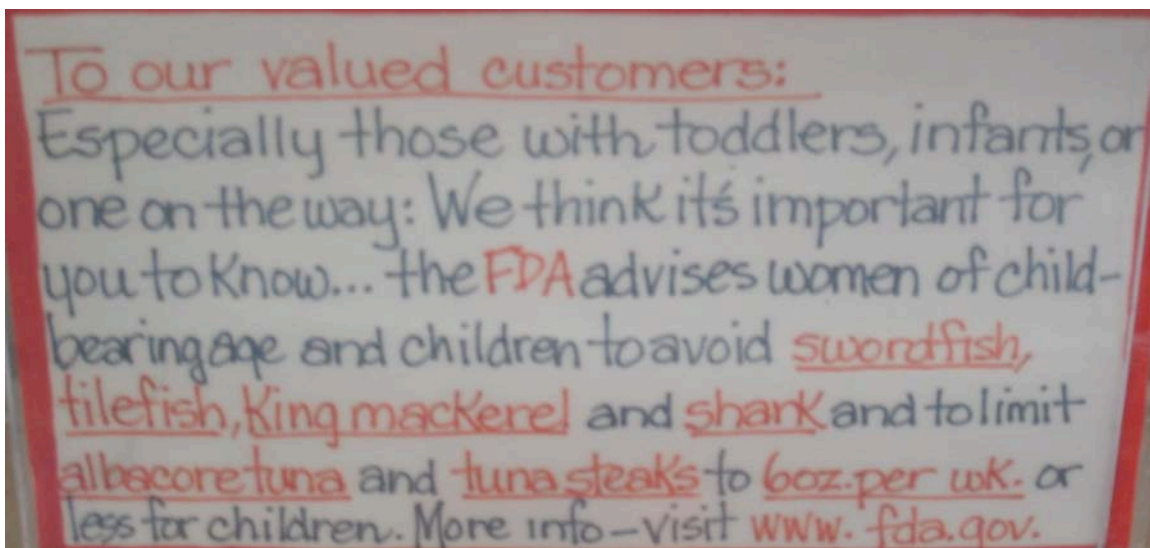
Fish with High EPA/DHA – Suitable for Group 1

	BigY	Costco	S&S	TJ's	WF	P.Pod	Swans	Costco.com	Total
Atlantic Salmon									
farmed	Y	Y	Y	N	Y	N	N	Y	5
wild	N	N	N	Y	N	N	N	N	1
Pacific Salmon									
farmed	N	N	N	N	N	Y	N	N	1
wild	N	Y	N	Y	N	N	Y	N	3
Rainbow Trout									
farmed	N	N	N	N	Y	N	N	N	1
wild	N	N	N	N	N	N	N	N	0

The range of the most beneficial seafood recommended for the first group is limited in Amherst. Salmon is the most readily available as it is offered at all five brick and mortar shops, but other beneficial fish options are scarce.

For people in the second group, the Amherst market provides richer options. Between the eight venues, there are 185 fish products for sale- although this number does include overlapping of fish species. These include options from nineteen different countries. The diversity of outlets is also accommodating; Costco provides lower cost, traditional items while Whole Foods offers more exotic and expensive fish.

Lastly, it is suggested that “contaminants in seafood vary according to local conditions; consume locally caught seafood only if appropriate after checking your state advisories” (Seafood Choices). None of the retailers offer locally caught fish and there are no displays of state advisories in the stores; however, some retailers do provide FDA and general advisories. Trader Joe’s mixes in its system of placards notices of FDA health warnings:



This note indicates that Trader Joe's has developed and implemented a system through which it can place warnings directly next to the product placard. Significantly, on this note there is a line about where to go for more information. This ensures that the retailer is not overburdened with providing the full extent of information and offers consumers a direction to learn more. Similarly, Whole Foods publishes a pamphlet with extensive information about methyl mercury in seafood; however, it is the only brick and mortar venue offering methyl mercury information at the point of purchase.

Shortcomings of the Study

The data was collected only in the months of October and November, and so seasonality may affect the availability of fish in Amherst. Certain venues, like Costco, have a special schedule of offering fish: the meat counter, open all business hours, offers tuna steaks and salmon fillets, but on the weekends there is a fish counter offering more variety like scallops and lobster tails. The online grocery retailers also change products frequently and limit their delivery route so that not all consumers in the Amherst market are serviced.

Conclusions and Recommendations

Information quality and quantity in the Amherst market adequately meets the demands of the Farm Bill, but it does not totally satisfy a consumer's need to find the most suitable fish at the point of purchase. The market might improve in three ways:

- Provide a wider range of fish high in EPA/DHA
- Label fish based on region in addition to country of origin
- Install a bulletin board to cite area-specific and FDA health warnings

By providing a better selection of fish with high EPA/DHA content, consumers who need to be wary of their seafood intake can better maintain their diets and feel confident in the benefits of eating fish.

By offering regional origins of fish, retailers can better inform their consumers and help them streamline their decision-making from information gathering to purchase decision. Whole Foods best offers this information and other venues might benefit their consumers by following Whole Foods' labeling method.

Following Trader Joe's system of combining FDA health information with product labeling, retailers can have a centralized and a consistent format to inform their shoppers of health risks. While FDA warnings are applicable for commercially procured fish, labeling could also be offered for local health alerts in the event that retailers offer locally caught fish.

References

"ERS Analysis: Country-of-Origin Labeling." Economic Research Service. 21 Jun 2002. United States Department of Agriculture. 11 Feb 2007
<<http://www.ers.usda.gov/Features/farmbill/analysis/cool.htm>>.

Seafood Choices: Balancing Benefits and Risks. (2007). Report of 13-member Institute of Medicine Committee. Washington, DC: The National Academies Press.

Schacky, C., Harris, W. (2007). Cardiovascular Benefits of Omega-3 Fatty Acid. *Cardiovascular Research*. 73(2): 310-315.